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EXAMINER

MACCHIAROLO, PETER J

ART UNIT PAPER NUMBER

2875

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,324

Applicant(s)

ALDERMAN ET AL.

Examiner

Peter J Macchiarolo

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1, 4, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1, 4, 7, and 8 are objected to because of the following informalities:

Regarding claim 1, lines 3-5 are unclear. The Examiner is interpreting the limitation to read as follows:

“...said cylindrical ceramic discharge vessel in the
discharge space contains an ionizable material which is a metal
halide...”

Regarding claim 4, the claim contains pertinent information within parenthesis. Accordingly, the acronyms, “CCT,” “CRI,” and “MPCD” technically have no meaning in the claims.

Regarding claims 7 and 8, the claim contains limitations on the aspect ratio value, however, the Applicant has failed to disclose in the Specification why these values pertain to the claimed invention. The Applicant is advised to indicate in the Specification the reasons for constructing the lamp to meet these limitations, or amend the claim accordingly.

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 11. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraphs of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation in line 15 recites the curved frame wire is separated from the discharge vessel "by a distance effective to reduce arc bending when compared to a discharge lamp wherein said frame wire extends substantially parallel to the ceramic discharge vessel." This limitation is extremely vague and unclear, as there are many different distances of separation in discharge lamp wherein said frame wire extends substantially parallel to the ceramic discharge vessel. The Examiner strongly recommends supplying a specific distance or range measured in millimeters to clarify the limitation.

Regarding claim 3, the limitation in line 6 recites a distance "at least twice the distance when compared to a discharge lamp wherein said frame wire extends substantially parallel to the arc tube," is not clear. This limitation is unclear, as there are many different distances of separation in discharge lamp wherein said frame wire extends substantially parallel to the arc tube. The Examiner strongly recommends supplying a specific distance or range measured in millimeters to clarify the limitation.

Claims 2, and 4-8 are rejected because of their dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3, and 5-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson (USPN 4,491,766).

In regards to claim 1, Larson discloses in figure 2, an outer bulb (40) enclosing a ceramic discharge vessel (60) enclosing a discharge space, wherein the cylindrical ceramic discharge vessel includes an ionizable material, a first (62) and a second (64) discharge electrode feedthrough means, and a first (48) and a second (50) current conductor connected current conductor connected to the first and second discharge electrode feedthrough means respectively, and the lamp having a single substantially curved frame wire (74) connected to one of said current conductors (48), extending between the ceramic discharge vessel and the glass bulb. Further, Larson discloses that the curved frame wire is separated from the discharge vessel by a first distance, which is greater than a second distance measured between a discharge lamp and straight frame wire, wherein the straight frame wire extends substantially parallel to the ceramic discharge vessel.

Larson is silent to the curved frame wire being separated from the discharge vessel by a distance effective to reduce arc bending when compared to a discharge lamp wherein the frame wire extends substantially parallel to the ceramic discharge vessel.

However, one of ordinary skill in the art can clearly see Larson's curved frame wire is separated from the discharge vessel by a distance effective to reduce arc bending when compared to a discharge lamp wherein the frame wire extends substantially parallel to the ceramic discharge vessel, since the distance is greater than the substantially parallel frame wire.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to Larson, further with a curved

frame wire being separated from the discharge vessel by a distance effective to reduce arc bending when compared to a discharge lamp wherein the frame wire extends substantially parallel to the ceramic discharge vessel, since this distance is well known in the art to reduce damaging heat trauma to the frame wire.

In regards to claim 2, Larson teaches all of the recited limitations of claim 1 (above).

Larson further teaches the ceramic discharge vessel is a substantially cylindrical arc tube.

Larson is silent to the exact reason why the ceramic discharge vessel is a substantially cylindrical arc tube.

However, it is well known in the art that this type of tube has desired qualities and traits for a discharge lamp of Larson's configuration.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to claim 1 (above), further wherein the ceramic discharge vessel is a substantially cylindrical arc tube, since it is well known in the art that this tube has desired qualities and traits for this discharge lamp configuration.

In regards to claim 3, Larson teaches all of the recited limitations of claim 2 (above).

Larson further teaches in figures 1 and 2 the frame wire extends outwardly from the arc tube at a distance whereby the maximum distance between the arc and the curved frame wire is larger than the distance when compared to a discharge lamp wherein the frame wire extends substantially parallel to the arc tube.

Larson is silent to the maximum distance between the arc and the curved frame wire being at least twice the distance when compared to a discharge lamp wherein the frame wire extends substantially parallel to the arc tube.

However, it is known in the art that when the maximum distance between the arc and the curved frame wire is at least twice the distance when compared to a discharge lamp wherein the frame wire extends substantially parallel to the arc tube, this distance allows for the frame wire to avoid damaging heat trauma from the arc tube.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to claim 2 (above), further wherein the maximum distance between the arc and the curved frame wire being at least twice the distance when compared to a discharge lamp wherein the frame wire extends substantially parallel to the arc tube, since it is well known in the art that this configuration allows for the frame wire to avoid damaging heat trauma from the arc tube.

In regards to claim 5, Larson teaches all of the recited limitations of claim 2 (above).

Larson further teaches in figure 2, the frame wire is a curved frame wire that extends adjacent to and substantially follows the contour of the glass bulb.

Larson is silent to the heat impact of the arc tube on the lamp components does not effectively reduce the lamp life.

However, it is well known in the art that arc tubes of the invention produce an extreme amount of heat. It is further well known in the art that bending the frame wire so it substantially

follows the contour of the glass bulb will lower the heat impact of the arc tube on the frame wire, and will lengthen the overall lifetime of the lamp.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to claim 2 (above), further wherein the frame wire is a curved frame wire that extends adjacent to and substantially follows the contour of the glass bulb and in which the heat impact of the arc tube on the lamp components does not effectively reduce the lamp life, since it is well known in the art that this configuration will lower the heat impact of the arc tube on the frame wire, and will lengthen the overall lifetime of the lamp.

In regards to claim 6, Larson teaches all of the recited limitations of claim 1 (above).

Larson further teaches in column 4 lines 6-18, that it is standard practice to retrofit the lamp with ballasts which are designed for high pressure sodium metal halide lamps, and these ballasts reduce starting voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to claim 1 (above), further wherein the lamp is retrofit with ballasts designed for high pressure sodium or quartz metal halide lamps, since it is well known in the art that this configuration reduces the lamps starting voltage.

6. Claims 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson (USPN 4,491,766) in view of Geijtenbeek et al. (USPN 6,147,453).

In regards to claim 4, Larson teaches all of the recited limitations of claim 2 (above).

Larson is silent to the lamp having a power range of about 150W to about 100W and exhibiting one or more of a characteristic selected from the Applicant's recited Markush group.

However, Geijtenbeek teaches in column 4 lines 42-54, a lamp has a rated power of 150W, and this lamp is suitable for being operated in an existing installation for operating a high-pressure sodium lamp. Geijtenbeek further teaches in column 2 lines 27-49, the lamp emits light with a high luminous efficiency, and the color temperature ranges between 3000K and 4700K, and this configuration allows for indoor lighting applications.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a discharge lamp according to claim 2 (above), further wherein the lamp has a power range of about 150W to about 100W and exhibiting a correlated color temperature of about 3800K to about 4500K, since this configuration has high luminous efficiency can allow for indoor lighting applications.

In regards to claim 7, Larson teaches all of the recited limitations of claim 2 (above).

Larson is silent to the aspect ratio of the arc tube is about 3 to 10, with the distance between the two electrodes ranging from 10mm to 60mm.

However, Geijtenbeek teaches in column 4 lines 55-58, that the electrode tips are spaced 32mm apart.

Geijtenbeek is silent to an aspect ration being about 3 to 10, but teaches in column 1 lines 5-12, the lamp has a ratio of EA/D_i , which is greater than 5. Geijtenbeek further teaches in

column 3 lines 1-6, that increasing the ratio EA/D_i by increasing EA causes the load on the wall to be limited, thereby increasing the overall lifetime of the lamp.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a lamp according to claim 2 (above), further wherein the aspect ratio of the arc tube is about 3 to 10, with the distance between two electrodes ranging from 10mm to 60mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

In regards to claim 8, Larson in view of Geijtenbeek teach all of the recited limitations of claim 7 (above).

Both Larson and Geijtenbeek are silent to the aspect ratio of the arc tube is about 3.3 to 6.2.

However, Geijtenbeek teaches in column 1 lines 5-12, the lamp has a ratio of EA/D_i , which is greater than 5. Geijtenbeek further teaches in column 3 lines 1-6, that increasing the ratio EA/D_i by increasing EA causes the load on the wall to be limited, thereby increasing the overall lifetime of the lamp.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct a lamp according to claim 7 (above), further wherein the aspect ratio of the arc tube is about 3.3 to 6.2, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

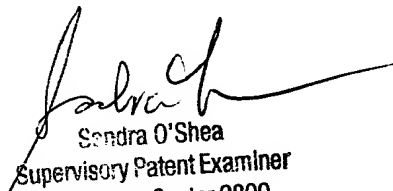
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7.30 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
December 30, 2002


Sandra O'Shea
Supervisory Patent Examiner
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